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# What Can the Teacher Do for the Deficient Child?

A MANUAL FOR TEACHERS
IN RURAL AND GRADED SCHOOLS

By
ARNOLD GESELL, M. D.
School Psychologist for the State board of education

1918

State Board of Education
Hartford, Connecticut

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# WHAT CAN THE TEACHER DO FOR THE DEFICIENT CHILD?

A brief manual of explanations and suggestions concerning extremely backward children in rural, village and city schools, who cannot have the benefit of training in a special class.

*In three parts*

I A primer of questions and answers on mental deficiency

II Illustrative case studies of deficient school children

III Suggestions for a special program for the deficient child child

By

ARNOLD GESELL M D

*School Psychologist for the State Board of Education of Connecticut*

PART I

# A primer of questions and answers concerning the problem of mental deficiency

*Does the regular teacher have any responsibility in the problem of mental deficiency?*

All students of the subject agree that mental deficiency is one of the greatest of our social problems. They also agree that the problem is so complex and many sided that there is no one simple remedy for it. The doctors alone cannot solve this problem; the psychologists alone cannot solve it; state institutions and special class teachers cannot meet the whole situation. Many minds and many hands must combine in lending assistance to the deficient school child. The regular teacher has a part to play.

Some one asks, Why not exclude all mentally deficient children from the public schools? The answer is, It cannot, at least now, be done. We do not have the legal machinery nor the public opinion to make it at all practical. There are a few exceptions, when for peculiar reasons a child is an intolerable burden in school, or a positive menace to other children. In such rare cases exclusion is the only measure.

For a long time to come, then, there will be feebleminded children in the rural schools, and in the regular classes of village schools and in many of the regular classes of our city schools. There is no reason for believing or even hoping that all these abnormally backward children will be conveniently excluded from the schools. There is no reason for thinking that they will all be assigned to special state institutions. In the great majority of cases mentally deficient children are destined to be reared in the communities where their normal brothers and sisters are attending school.

Let us admit that a special class, small in numbers, with a special teacher, and a special program and equipment all adapted to laggard minds, is the ideal arrangement for subnormal children. Let us also admit, and just as freely, that we cannot expect too much of a regular teacher. Her responsibilities lie chiefly with the normal children, and she is even open to criticism if she gives a very disproportionate amount of attention to the deficient child. What we are pleading for is that this child deserves at least a little more than the average share of attention, and that this attention should be wisely directed. Our aim, in this booklet of explanations and suggestions, is to help the regu-

lar teacher to meet her responsibility in a situation which she is bound to face.

And what is the best way to help her? We hope it is, by making her natural interest an intelligent one; by indicating what can and what cannot be done, so that she will not do herself an injustice with standards either too high or too low, as the case may be. We know only too well the aggravations and difficulties which often lie in her way; but we are also sure that it is a real, human problem, and that there are rewards in meeting it.

### *What is mental deficiency?*

This, naturally, is the first question. Mental deficiency is something more than ordinary backwardness in studies; and it is something different. Ordinary backwardness is comparatively not very serious. A merely backward pupil will not graduate at the average age; but there is no reason to believe that he will not succeed in life. Ordinary backwardness is usually curable. It is due to causes which can be remedied or removed. It is due to irregular attendance, to poor nutrition, to adenoids, to haphazard schooling, poor teaching, defective vision, lack of familiarity with our language, and a long list of other causes which retard but do not altogether destroy normal development.

Now, a mentally deficient child does not even have the possibilities of normal development. His retardation is permanent, and it is incurable. He may have poor eyesight and many other defects, but they are not the cause of his deficiency. In about eight cases out of ten his backwardness is inborn; it is an hereditary handicap. In the other two or three cases out of the ten it has been an injury from disease or some other cause which so damaged his immature brain that he can not enjoy normal mental development. Like a plant that has been stunted, he fails to reach a full mental stature. He, therefore, shows a certain lack of mental vigor, and always a kind of immaturity. Unfortunately we cannot in any way remove such a fundamental weakness and incompleteness. It is because the brain itself is incompletely developed that we cannot make him normal. We must admit, then, that mental deficiency is an extreme, constitutional form of backwardness which dates from birth or early infancy, and which is so serious that it will prevent the child

from taking his place either in school, or in the world, on a par with his normal fellows.

*What are the causes of mental deficiency?*

As already suggested, they are chiefly hereditary. In about 75% of the cases the mental deficiency traces back to a defect in one or two of the parental germ cells from which the individual was developed. The chief cause of feeblemindedness is feeblemindedness. If both parents are feebleminded the children are bound to be so; if only one parent is feebleminded some of the children or grandchildren are likely to be so. Sometimes, even in hereditary feeblemindedness there is no defect apparent in the father or mother. There is, however, a mental or nervous defect of some kind somewhere in the family strain, which accounts for the condition. How important alcohol and syphilis are in the production of inherited feeblemindedness is not fully known.

In about one case out of four, mental deficiency is due to some damage to the child's organism, either in the prenatal period, during birth, or in infancy. A direct injury to the brain by prolonged pressure or by a fall may be the cause, though these cases are not numerous. In other instances the poison of severe infectious diseases may irreparably damage the growing brain cells causing mental deficiency. Or the brain and its membranes (the meninges) may be affected by a disease like cerebrospinal meningitis. Finally, if a child has frequent epileptic convulsions in his early years the after effect may be mental deficiency.

In the great majority of cases feeblemindedness is due to ancestral factors, and is transmissable. It is a pity and a menace that so many feebleminded have the opportunity to marry and thus pass on the tradition.

*Does the mentally deficient child look subnormal?*

Sometimes; but, by no means necessarily. In countenance, facial expression, and ordinary demeanor, he often is indistinguishable from normal children. It is rather dangerous to judge too much by physical appearance. A child may look "queer" or defective and yet be perfectly normal. Misshapen head, small

head girth, over-large or deformed ears, poorly formed nose, open mouth, coarse flabby skin, thick, stumpy fingers, "peculiar" hands, weak hand grasp, generally stupid expression,—these and other physical signs have importance only when they are combined with mental inferiority. It is much safer and more scientific for the teacher to pay attention to how a child uses his body and his hands, how he walks, climbs stairs, handles things; how he plays and works. For, after all, it is his mental characteristics, and his behavior, that count.

*What is the chief weakness of the deficient child?*

First and foremost, he is deficient in intelligence. This is his fundamental defect. By mental deficiency we mean deficiency of intelligence. Intelligence is the most practical aspect of the mind. It is the capacity to profit by experience and the power to make adaptations to new situations as they arise, or even before they arise. It is that mental part of us which means preparedness to meet the demands of life. And this is just what the mentally deficient child lacks. To be sure, he has *some* intelligence; but he does not have a normal amount. He is not strong minded like his normal companions; he is so feeble of mind that he falls far behind in the race. He falls behind his grade in school. When he grows up he keeps on falling behind. He will stumble into difficulties; he may fail altogether in the struggle for existence as he has failed in a struggle for education. A man with a weak heart cannot climb a steep hill. In the feebleminded it is the power of mental adaptation which is weak; and they cannot surmount the obstacles which the requirements of ordinary community life present. They do not have the clearness of perception, nor the mental vigor to grasp and handle even the ordinary problems of human existence. They are at the mercy of events. Normal minded people are at least partial masters of their fate.

This has all been well said by Miss Mary Dendy of Manchester, England. "To all of us birth happens and death happens. Those of us who are sane *know,* whatever we may *think,* that between birth and death we have the power, to a great extent, of guiding our own lives; we have the choice between good and evil. To these less happy brethren of ours (the feeble-

minded) not only do birth and death happen, but everything that comes between; their lives are one long happening."

It is a deficiency of intelligence which makes their lives "one long happening."

*Can intelligence be measured?*

Every person who is at all observant of human nature makes estimates of intelligence. He classifies his friends,—and his enemies,—into various groups:—stupid, clever, mediocre, etc. The school teacher estimates her children in a similar manner; and roughly separates them into two or three divisions: the bright, the average, the dull. There is, however, one great source of error in estimating the intelligence of children. They are constantly growing, and it is difficult to keep definite standards in mind. A boy of twelve may be doing excellent work in the fifth grade; the teacher calls him bright. Another boy of ten may be doing only passable work in the same grade, and the teacher calls him average or dull. As a matter of fact the ten year old boy may really be brighter than the older boy, if we take actual age into account. Ability to do school work is a very proper measure of intelligence; but the most important factor is the *age* of the child. And we cannot make an adequate estimate of intelligence until we take age into full consideration.

Can we do this with anything like accurate precision? The great French psychologist, Alfred Binet, has shown us that we can. After years of patient experimentation on his own children, and on normal and deficient school children in Paris, he devised a graded series of mental problems, or tests, which he justly called a measuring scale of intelligence. No one pretends that this scale has the accuracy of a clinical thermometer which reads to a tenth of a degree, but it is a scale because it is made up of standardized units. Judiciously applied, this scale or one of its improved revisions, furnishes us a rating of intelligence.

For example it was found after numerous comparative try-outs on children of various ages, that at different levels of mental development children respond differently to a picture. A child of three will ordinarily look at a picture, and simply enumerate all the objects in it: "man; river; boat, etc." On the average, say seven cases out of ten, a child of seven will describe the

picture: "The man is paddling. The boat is going down the river." At the age of twelve the average normal response is an interpretation of the picture. "They are fleeing from danger, etc." This is the principle of a graded intelligence scale. Five or six tests for each age from three to twelve or sixteen, furnish the basis of measurement. What is normal or characteristic of a given age being known, we can determine roughly whether a child tests above age, below age or at age; and we can tell how much he deviates. We express his "score" by mental age. He is actually eight years old; that is known as his chronological age. He tests six years of age by the scale; that is his mental age. This mental age gives us some idea of his retardation; but we do not get a true conception of his intelligence calibre until we compare mental age and chronological age. The ratio between the two is the significant thing. This ratio is the intelligence index. It is usually called the intelligence quotient (abbreviated, I Q); because it is derived by dividing the mental age by the chronological age. The formula is $\text{I Q} = \frac{\text{M A (mental age)}}{\text{C A (chronological age)}}$. If the numerator and denominator are equal we get unity or 100%, or an I Q of 100. If the numerator is 2, and the denominator 3, we get a value below 100,—I Q=67. If the numerator is 3 and the denominator 2, we get an I Q of 150; which indicates a very superior intelligence. An I Q of 67 or less, however, nearly always means feeblemindedness. If we use the carefully standardized methods of The Stanford Revision of the Binet Scale, we may, safely say that the following ratio between mental age and chronological age denotes definite mental deficiency:—2:3; 4:6; 6:9; 8:12; 10:15.

*What are the different degrees of intelligence?*

For convenience we may say that there are three grades or degrees of intelligence to be found among school children: average, superior, inferior; normal, supernormal and subnormal. By normal intelligence we mean that ordinary amount of intelligence which most children have and which insures their ability to meet the ordinary demands of life. Such children are neither much retarded nor advanced in their schooling. They are neither far below or above par. In terms of I Q (intelligence quotient)

they rank, according to the Stanford-Binet ratings from 90 to 110. Children with an I Q above 110 may be regarded as more or less superior. Children rating from 90 to 80 are usually dull. From 70 to 80 is the region of "borderline deficiency." Sometimes these children are classifiable as dullards, sometimes as mentally deficient (feebleminded). Below 70 points to definite feeblemindedness. While the line must not be drawn too sharp or too straight, we may regard this as the upper level of subnormal intelligence.

Mental deficiency or subnormal intelligence differs in grades of severity. Three main grades are recognized: low, medium and high grade; idiot, imbecile and moron. The I Q for these classes would range between 50 and 70 for moronity; between 20 or 25 and 50 for imbecility; and below 20 or 25 for idiocy. (Terman)

The idiot stands at the bottom of the scale. He is often utterly helpless, and he very rarely enters a public school, because his mental age is less than three years. The Mental Deficiency Law of England defines idiots as "persons so deeply defective in mind from birth, or from an early age, as to be unable to guard themselves against common physical dangers."

The imbecile stands somewhat higher in the intelligence scale. His mental level is between three and seven years. Imbecile children sometimes find their way into public schools. The Mental Deficiency Law defines imbeciles as "persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so."

The most important and most numerous group is the moron. He stands near the borderline of normality. He often looks normal and so we allow him to drift into situations which he cannot meet. It is the moron who makes so many problems for the schools and for society. The moron mentality ranges in terms of intelligence age, from seven to eleven years. The English legal definition of the moron is as follows: "Persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection, or for the protection of others, or, in the case of children,

that they, by reason of such defectiveness, appear to be permanently incapable of receiving proper benefit from the instruction in ordinary schools."

*How many children are mentally deficient?*

Our answer depends, of course, upon the standards which we use and how accurately we apply them. Terman has found that among 1000 unselected school children, 1% have an I Q of 70 or less. By this standard it is safe to say that for a large number of cases, 1% of the elementary school enrollment is definitely deficient. Since however many children with an I Q of over 70 are deficient when judged by their social and industrial capabilities, we may possibly be justified in considering the proportion as high as 2%. One per cent is at present the least disputed figure.

So far as the teacher is concerned this statistical question has no practical importance. The figures hold only for a large number of cases, and the distribution of cases in any school building or school district will be uneven. For example one rural school may not have a single mentally deficient pupil, another may have two or three. There are similar variations in graded school systems. One building with 500 pupils may have only four deficient pupils, another of the same size or even smaller may have eight. The third and fourth grades are likely to have more than the sixth and seventh, except when the deficient children are promoted by courtesy.

*What is the difference between a dullard and a deficient child?*

It may not be altogether scientific to make a rigid distinction between the two. It has been maintained that grades of intelligence fade into each other like day, dusk, dark and dawn; and that it is arbitrary to draw sharp lines between the grades. For practical reasons, however, we insist that a clear cut distinction should be made between the dullard and the deficient child. And the distinction should be made in favor of the dullard. A dullard is not a very high grade moron; he is not a super-moron. He is to be regarded as a definitely normal individual, whose faculties are simply below the average in quantity but closely akin to the average in quality. He is organized along normal

lines. He may be slow witted; but he is not weak witted. He has considerable mental stamina and stability. When we psychologically describe him as a low grade normal, we do it in no derogatory sense. He may be backward in school; he may be rather obtuse in abstract, academic subjects; but in his natural sphere he succeeds. He makes his way in the world; because he has enough mother wit to do so. This is more than we can say of the moron; for as Tregold has pointed out, even the highest grade moron is lacking in "that essential to independent existence, common sense."

A deficient child is so defectively organized that he does not promise even the modest success in life which the dullard attains. The dullard profits much more from experience, and responds much more to proper education.

### *What is the chief characteristic of the mentally deficient adult?*

The best, brief answer to this question is summed up in Dr. Tregold's definition of feeblemindedness. In his words, feeblemindedness is "a state of restricted potentiality for, or arrest of, cerebral development, in consequence of which the person affected is incapable at maturity of so adapting himself to his environment or to the requirements of the community as to maintain existence independently of external support."

This definition is well worth mastering. We recommend that the teacher memorize it, analyze it and interpret it. Notice that the test or criterion of mental deficiency is a *social* one. A feebleminded person cannot become an efficient, responsible member of society. He cannot become an independent wage earner or a self controlling citizen. A feebleminded man ought never to be allowed to try to found a home and rear a family; a feebleminded woman cannot properly manage a home and for this reason alone, if for no other, she ought not to become a mother of children. She does not possess the mental ability to properly bring up children; and if she did, the children often would not have the mentality to properly respond to training.

The feebleminded are therefore at once mentally deficient and socially deficient. They cannot function as normal members of society because of subnormal mental endowment. It is not

perversity, viciousness, or laziness which makes them fail. It is a degree or a kind of mental incompetence. It is defective intelligence.

*What are the social consequences of feeblemindedness?*

When feeblemindedness is uncontrolled by society all sorts of vocational, economic and moral problems arise. Many of our social problems are caused by the vocational inefficiency of the feebleminded. Vocational inefficiency shows itself in so-called shiftlessness, unemployment, irregular employment, begging, vagrancy, pauperism. This does not of course mean to say that every pauper is feebleminded. That would be a libel. But it does mean that feeblemindedness is an important cause of pauperism and indigence. A large portion of those who drift into almshouses, particularly those who are not of advanced age, have failed in the struggle for economic existence because of the feebleness of their wits. They did not have the mental tenacity and good judgment to succeed from day to day, month to month, and year to year. For the same reason the feebleminded earn subnormal wages at piece work; or are "handed around" from job to job without holding any position for a great length of time Some become vagrants, ne'er-do-wells; many are wastrels; to use an English term. "Good-for-nothing" we often call them. As a matter of fact they are good-for-something; but only if we put them into suitable surroundings where their weak intelligence will not be overtaxed.

The foregoing failures we call economic failures. If the same individual fails along legal lines we call it crime, delinquency or vice. Economic failure and moral failure are psychologically akin. They both may be an expression of mental weakness. It takes a reasonable amount of intelligence to recognize right and wrong, to keep definitely in mind the consequences of wrong, and to shape conduct in accordance with the advantages of right. For this reason it has been said by high authority that every feebleminded person is a potential criminal. As a matter of fact a remarkably large number of feebleminded persons manage to keep out of jail; but a remarkably large proportion of those who do not, and who serve long sentences in reformatories and prisons are mentally deficient. Easily one out

of five of the inmates of penetentiaries is feebleminded. Likewise many of the boys and girls who are committed to reform schools, particularly among those cases who do cannot be permanently reformed are definitely deficient. When the impossibility of reform is due to mental deficiency, we call the individual a *defective delinquent.* A fraction of the incorrigible or disciplinary cases among school children are defective delinquents.

Lack of intelligence may be at the basis of other forms of subnormal control, such as alcoholism and sexual immorality. Not all, but, again, a considerable percentage of inebriates and of prostitutes are feebleminded.

Is it any wonder that we have so many social problems directly due to mental deficiency? We can only rejoice in the good fortune of those cases where a happy combination of favorable circumstances allows the feebleminded person to live a partially useful or at least a harmless life. We wish it were possible to always provide the external support which their mental frailty needs. Perhaps we some day shall be able to do so, if we begin near the bottom and cope with the problem as we find it in our public schools.

*How does mental deficiency show itself in the school child?*

Naturally, the failures of the neglected feebleminded adult are foreshadowed in the school life of his childhood. The failures in school may not be so glaring because we do not expect too much of the immature and because we naturally protect children. Sometimes it even happens that the optimistic school teacher does not recognize the existence of feeblemindedness in a pupil; particularly if the pupil is a docile and agreeable child. But if the teacher has a proper appreciation of the fundamental importance of intelligence, she is likely to see the signs of defect in the school behavior of a deficient child.

What are these signs? Let us enumerate them, cautioning the teacher to use good judgment in interpreting them.

In the first place a deficient child does not play in a normal manner. He never is a leader on the playground; and often he is not even a follower. He prefers to sit by idly, content to watch others play; and this, not because he is physically weak, but be-

cause he is mentally inert. He does not have ordinary, healthy play interests; he is listless; and if he attempts to play a game beyond his mental and moral powers he gets into difficulties; he is not likely to be a popular playmate. There are some children of high grade mental defect who manage to play pretty successfully; but even they are usually fond of the simplest games only, and they tend to play with companions below their own age.

In work as well as in play the signs of deficiency show themselves. If the child is of very low grade intelligence, say that of an imbecile, he will not be able to acquire the 3 R's at all. His writing will then be mostly scribbles; he will probably be unable to draw a copy of a diamond; he might after much training, learn to recognize a few words, and do a few simple sums. But when we recall that it is possible to teach almost as much to an "educated horse," it does not follow that he can really read, or that he has any comprehension of numbers, beyond a few, concrete situations.

*What can a moron do in ordinary school work?*

While an imbecile is almost entirely incompetent in the ordinary school room, a high grade moron may accomplish a good deal with the 3 R's. But it will be hard for him to learn. By the time he gets to his teens he is usually three years or more behind his grade; and what he does learn he often fails to understand. In rare cases he may have learned to perform long division, but usually his comprehension of arithmetic is far below that.- He always has great difficulty with fractions and with problems requiring reasoning. There is a concrete kind of arithmetic, however, in which he feels more at home; and this kind only has any value for him.

A high grade moron may learn to write a simple letter. His powers of composition, however, are usually below even that; and he is deficient in matters of punctuation; sentence structure and of course in grammar. His penmanship is likely to be far superor to his language power. This is because penmanship is merely a motor habit, while written language makes demands upon a higher kind of intelligence. A moron may learn to read; but he acquires the art with difficulty. His reading is always

likely to be monotonous, and rather slow. While a normal child usually learns to read with some expression and understanding the feebleminded child tends merely to call off the separate words, and is deficient in reproducing the thought of a selection. A moderate ability to read in a child of twelve years or over must not, however, be taken as a proof that the child is not mentally deficient. If he is seriously retarded in all his school work and shows poor judgment and general lack of common sense; he may still be feebleminded.

We must never forget that academic attainments may be largely mechanical, and simply due to years of drill, drill, drill. For example, I recall a deficient girl about eleven years old, a third grade pupil, who could glibly recite the "five table." The patient teacher had drilled so hard on that table, that the child reproduced it perfectly. But it must have been a phonographic kind of reproduction, because when I asked the child, "Which is more: five or two?"—she could not answer!

In history, a mentally deficient pupil ordinarily makes very little progress. He may learn a few simple facts, in a somewhat parrot fashion, about George Washington, Columbus and Abraham Lincoln; but he often gets his historical characters sadly mixed. He may say that Columbus was the first president, and if you ask him who lived first, Columbus, Lincoln or Washington, you cannot be at all certain that you will get a correct answer. Though a mentally deficient child may learn simple stories about historical men and events, he has a very meagre historical sense. The teaching of history to the feebleminded is mainly a waste of time, and often an absurd waste.

The same is true of geography. A few barren geographical facts the feebleminded pupil can memorize. He may even learn to recite after a fashion in a map study lesson. He may point out South America, but ask him which is larger, Connecticut, New Haven, or America, and you may get a wrong reply. He does not grasp relations which are abstract. He often fails to grasp concrete relations, when these are beyond the range of his own immediate experience.

*What does the deficient school child need most of all?*

Most of all, he needs to be understood. When teachers, parents, and elder schoolmates begin to understand him, the chances are that he will be made more happy and more useful. At least, the teacher who is with him every day can make a determined effort to understand him. She can observe his behavior and note his limitations, and get some conception of his mentality. Of what value is all our psychology, if we cannot use it in order to interpret a feebleminded child? Let the teacher once really appreciate the nature of such a child and she will soon find some devices by which he can best be treated. The teacher can do much to make the lot of the deficient child a more comfortable one. She can treat him with such consideration that the whole schoolroom will respond to the suggestion. If the child is a butt of teasing and other forms of mental cruelty, the teacher is the one to change all this for the better. We must all begin to look upon the feebleminded more as we look upon the crippled and physically infirm. A crippled child is the object of peculiar concern and consideration. We do not expect too much of the cripple. Least of all do we regard his weakness as in any way a disgrace. Yet, when it comes to the feebleminded we often wrongly attach a stigma to their condition. The rural teacher, the village teacher, and in city schools, the principals, can do a great deal toward removing this stigma. No teacher or principal should tolerate in the vicinity of the school grounds the calling of names and the tormenting which are still too commonly the lot of the deficient child. By indirect suggestions, and sometimes by a little plain talking, the teacher can make the attitude of the normal children one of wholesome sympathy and appreciation for the subnormal member of the group. If these normal children need a little sermon on the subject, why not recall to them the kind instincts which they ordinarily display toward the crippled, the paralytic and the blind; and make them realize that the feebleminded are in need of the same kindness?

The solution of the problem of feeblemindedness depends to a large extent upon general mutual understanding. It might almost be said that if everybody concerned, really understood the feebleminded members of their community, it would be possible

for a great many of these members to lead a fairly satisfactory life outside of an institution.

The place to begin this policy of mutual understanding is right in the schoolroom. Begin it, by not expecting anything of the feebleminded child which he is not equal to. Make allowances for him. If necessary, make a special program for him. If necessary, give him a special table and a little work bench in the corner of the room; and instead of fearing the consequences which such special attention will have upon "the discipline" of the room and upon the regular pupils, enlist the interest and cooperation of these pupils in solving the problem. The problem is this: How can we keep a feebleminded child in an ordinary school room, and yet serve his best interests? He is bound to get more than his share of attention in any case. Make the attention intelligent; and if the routine is somewhat disturbed the educational benefit for the whole group may be all the greater.

In the lower grade cases, where the child is conspicuously below the mental level of his schoolmates, the problem will be greatly simplified by delegating much of the special work to bright monitor pupils. These pupils will take a pride in helping the teacher and the child. Make it a family problem; encourage cooperation and the subnormal pupil instead of being a drag upon the room may furnish a real stimulus to the social education of the whole group. Let us so change the situation that the deficient child will become an educational asset. This will be for his own benefit and for ours.

*Who should make the diagnosis of feeblemindedness?*

The teacher should never make an official diagnosis. That is the business of a qualified examiner. Should the teacher, then, regard every child as normal until she is notified to the contrary? That would be too much to expect. Every intelligent teacher is bound to make some kind of judgment in regard to her pupils, and sometimes this judgment must amount to a conviction that a child is definitely feebleminded. When a case is doubtful it is her duty to suspend her judgment; but when she has ample evidence of real deficiency, such as is described in this booklet, it is her duty to shape her policy with respect to the child in accordance with that evidence. In consulting with in-

telligent parents of the child, she may then, go so far as to say something like this: "In my opinion the child is seriously backward, he will never accomplish what the average pupil accomplishes, and he should have special attention during his school life and after he leaves school." This is going far enough; she should not undertake to make a formal diagnosis, and she is not called upon to use the term feeblemindedness. The most convenient term to use, if any be necessary, is *"deficient."* This is sufficiently accurate, but it is not a harsh designation, because teachers often use a similar expression with normal children who are reported "deficient in arithmetic," "deficient in reading," etc. We recommend then, that instead of using such unreserved terms as feebleminded, abnormal, degenerate or imbecile, teachers will simply say "a deficient child" or "a seriously backward child."

*Can teachers be of any assistance to parents of a deficient child?*

They can when the parents do not appreciate their problem. When the child has been definitely diagnosed as mentally deficient, or when the evidence points decisively to mental deficiency, the teacher and supervisor can be of real assistance to the parents by making suggestions concerning the treatment of the deficient child at home. Parents should realize that this home-training is often very important. So far as possible, the child should learn in his home the fundamental personal habits that have to do with his cleanliness, neatness, and every day deportment. Does he know how to wash himself? Does he comb his own hair? Can he tie his shoestrings? Does he know how and when to use his handkerchief? Some of the simplest things are often neglected. Families fall into the habit of helping the deficient child too much. By patient drill he must be taught those personal habits which will make him less burdensome and more attractive to others. Above all the child should be taught how to work with his hands, he should learn to assist in the labor of the home, the farm, the shop. So far as practical, he should have definite chores. A deficient child can often be trained into a considerable degree of usefulness. The one thing that can not be taught him is good judgment; and it is for this reason the parents must never expect too much of him.

Tact is always necessary in discussing such questions, but when the teacher is sure of her ground, a positive use of tact is surely much better than a policy of silence or neglect. As a matter of justice to the child, everything should be done to protect his future.

How should parents be advised in regard to that future? So much depends upon each individual case, that we will give only a few general suggestions.

1. If the child is an excessive burden and a real menace, steps should be taken to have him committed to an institution. You may write to the office of the state board of education or to your supervisor for advice in regard to such steps.

2. If the child is apparently "harmless" and can do a little work, the parents must be made to realize that the child will probably always lack the judgment to take entire care of himself, and that he should always be kept near friends and relatives who will guard him against pitfalls and dangers. A defective young man must not be permitted to try to make his way in the world. A defective young woman should be guarded against every danger. Neither, of course, should marry.

3. The only hope of keeping a feebleminded person safe and happy outside of a colony or institution is to find the right kind of work for that person. Let the occupation be simple and let the worker be protected from dangers, and the problem is often solved.

But if the parents are blind to the situation, and persist in hoping that the child will yet grow up and become independent, they are doomed to much worry and disappointment. A mentally deficient child lacks the capacity for normal independence and self-control. Under favorable, supervised conditions, he may when he is grown make his living, but he always needs some external support, some guidance. When a teacher can sympathetically help a parent to see the problem in its true light, she will be rendering a service not only to the child and to the family, but also to the state of which she is a public servant.

PART II

# A mental classification of children and illustrative case studies of deficient pupils

*Types of deficient school children*

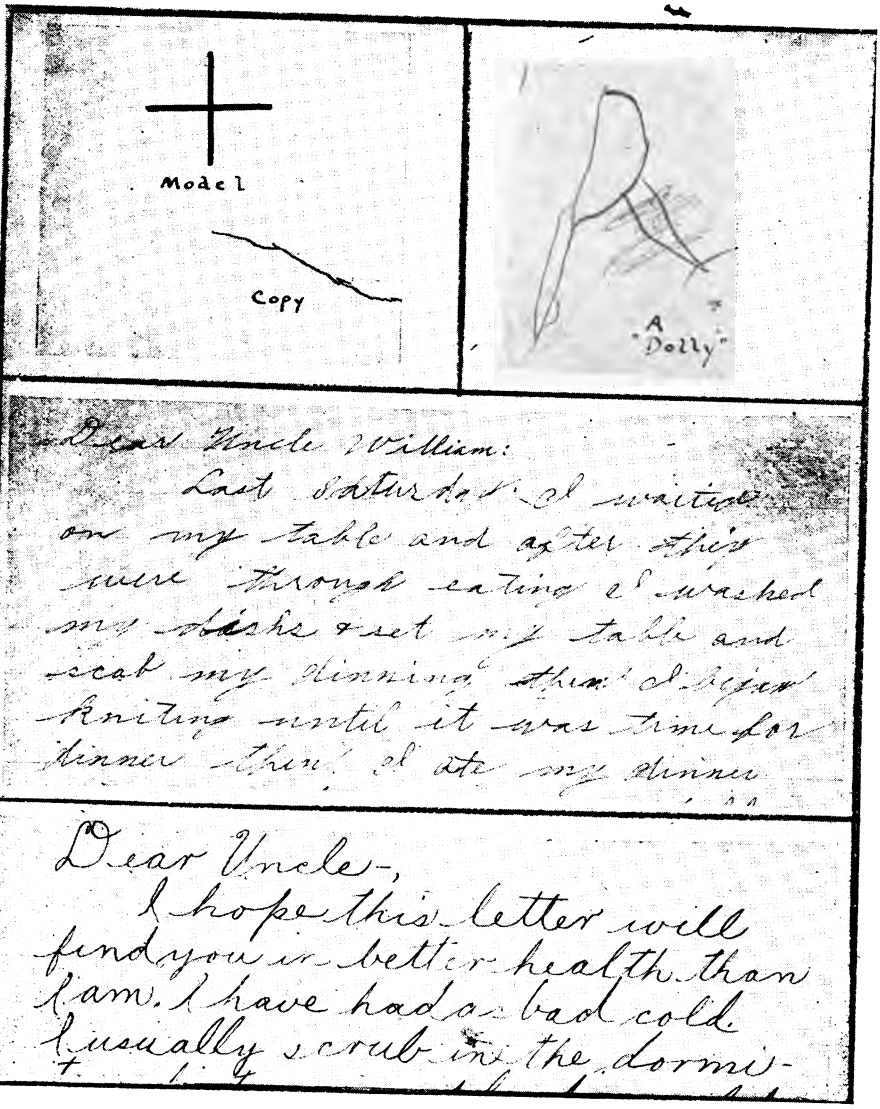
For the convenience of the reader we insert a tabular psychological classification of children, which furnishes a bird's-eye summary of some of the main facts. As a simple standard of reference for the teacher, we also add a few case studies of school children illustrating different types of mentality. Three girls, Harriet, Sarah, Helen, representing respectively low grade deficiency, dullness, and mental superiority are briefly described, and specimens of their writing and drawing are shown.

Following this, is a comparative description of three brothers, who are in the same public school, who are of exactly the same Binet age, who have substantially the same school attainments, but who represent because of their differences in chronological age, three descending degrees of mental deficiency. These boys, of course, belong to the hereditary type of mental deficiency.

A few samples of their school work and mental output are shown in the illustrations. Each boy was able to write without assistance a sentence stating his approximate age. Below this sentence is reproduced a "letter" telling "What I did on last Saturday." The drawings portray a house, a man and tree. The circle represents the results of the Ball and Field Test, an interesting intelligence test, which is embodied in the Stanford Revision of the Binet measuring scale. Briefly, we said to each child, "Let us suppose that your ball has been lost in this round field. You have no idea what part of the field it is in; but you know it is there somewhere. Now take this pencil and begin at the gate, and mark out a path to show me how you would hunt for the ball, so as to be sure not to miss it." This test demands a little practical judgment on the part of the child. We consider that a child fails, if he cannot comprehend the instructions. Such was the case with Harriet. The three brothers grasped the instructions but failed to show any definite plan in carrying out the search for the ball. At the mental level of eight years we expect evidence of at least a little foresight, an inferior plan of search. Sarah, the dull girl, made a path around the margin of the field, an inferior plan; while a normal or superior girl of twelve like Helen, meets the logical requirements of the problem, with a superior plan of search, which covers the whole field with a spiral or fan shaped path.

## A MENTAL CLASSIFICATION OF CHILDREN

| Standard Groups arranged on the basis of Intelligence | Intelligence Quotient | Mental Age | Vocational Possibilities | Educational Possibilities | Atypical Groups Deviates from the standard and variable as to degree and balance of intelligence |
|---|---|---|---|---|---|
| *Superior*<br>Of superior general capacity and mental adaptability | Over 110 | + + | Professional life, and high grade callings in scientific, artistic, technical, and executive lines | College, University and Technical Courses | *Sensory-Motor Defectives*<br>(Blind, Deaf, Dumb, Crippled)<br>*Defective Delinquent*<br>(criminal in tendencies, but primarily feebleminded)<br>*Reformable Delinquent*<br>(delinquent, but of sufficient intelligence to be reformable)<br>*Speech Defectives*<br>(lisping, stuttering, aphasia)<br>*Epileptic*<br>(general seizures or periodical "fainting turns")<br>*Psychopathic*<br>(neurasthenic, hysterical, phobic, perverted; abnormally seclusive, latent insanity)<br>*Borderline Inferior & Unstable*<br>(not classifiable as simply dull or feebleminded)<br>*Backward*<br>(usually of normal intelligence, but retarded on account of physical, environmental and educational handicaps) |
| *Normal*<br>Of ordinary general capacity and mental adaptability<br>1) *Bright* 2) *Average* | From 110 to 90 | At par or near par | Vocational independence and success in many fields of activity | Elementary and Secondary Schooling at minimum | |
| 3) *Dull* | 90 to 80 or slightly below 80 | — | Vocational independence, usually in manual and industrial occupations | Elementary and non-Academic Continuation Courses | |
| *Subnormal*<br>Definitely deficient in general capacity and mental adaptability<br>*Moron* | 70 to 50 | 11 to 7 | Vocationally semi-dependent. May earn a living under favorable circumstances, but need indulgence and oversight. Low grade morons can do only routine work | Rudiments of the 3 R's. Training in shop, farm and home activities. Simple trades. Personal habits | |
| *Imbecile* | 50 to 20 | 7 to 3 | Vocationally dependent. Can do only simplest routine work. Need constant supervision | Training as agricultural and vocational helpers in colonies and institutions | |
| *Idiot* | 20 to 0 | 3 to 0 | Vocationally incompetent. Completely custodial | A few personal habits | |

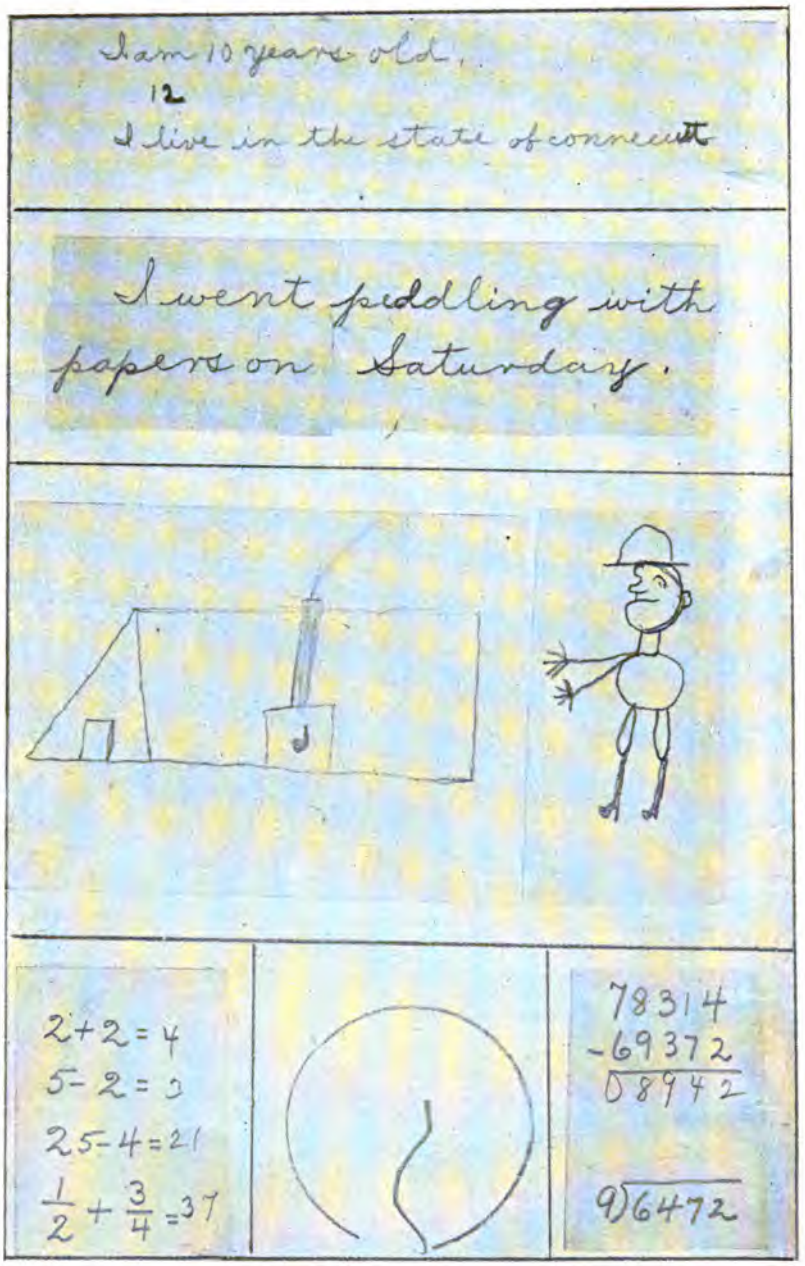



THREE GRADES OF MENTALITY

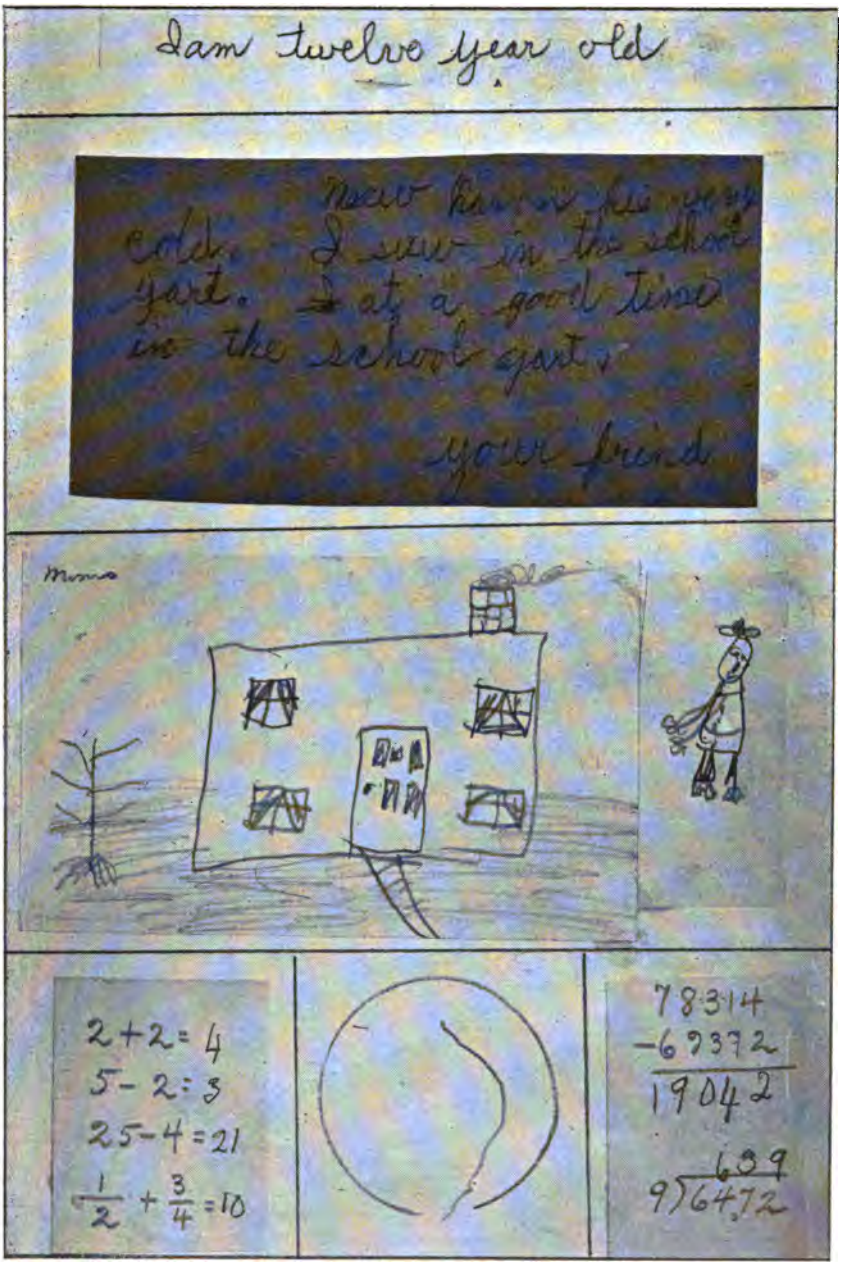
The drawings are by Harriet, age 11, IQ43. Mentally Deficient. (Kindergarten)

The letter to Uncle William is by Sarah, age 14, IQ75. Dull. (Grade VI)

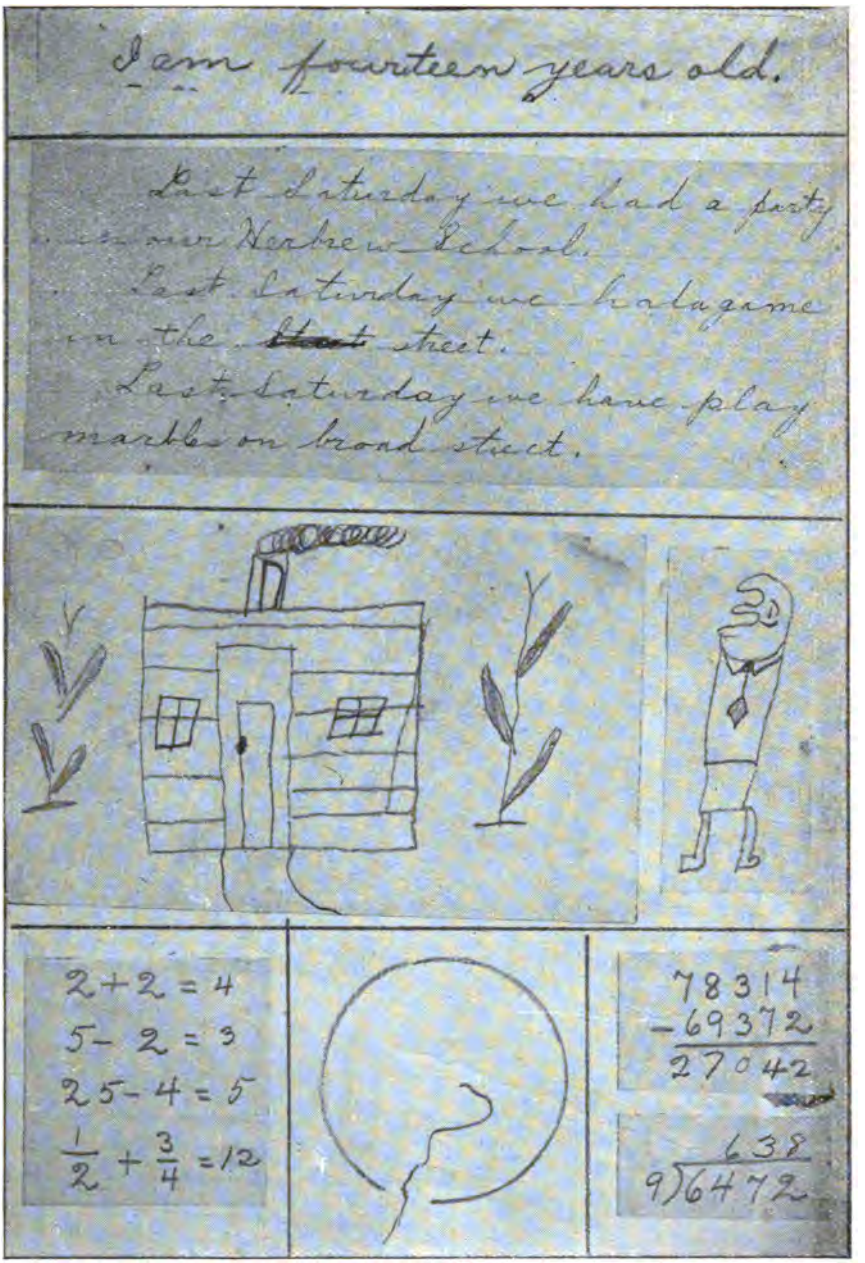
The other letter is by Helen, age 12, IQ137. Superior. (Grade VIII)



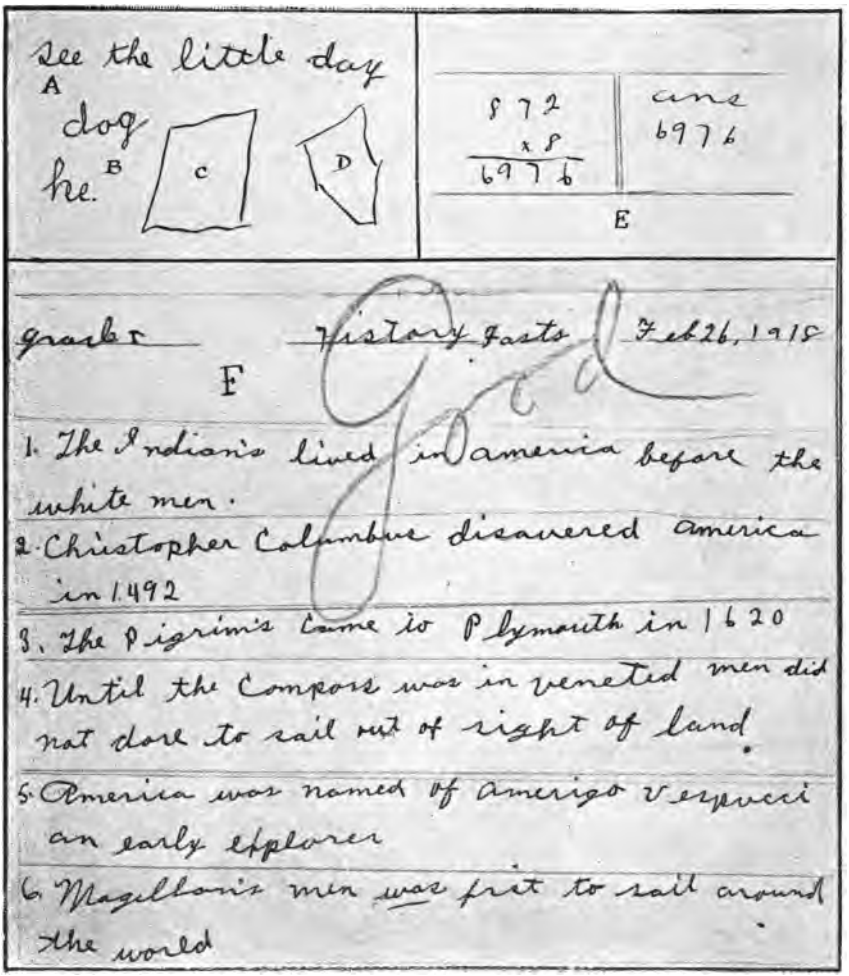

By the younger brother, Mental Age 7.




By the middle brother, Mental Age 7.




By the older brother, Mental Age 7.




By Simon, Age 11, Mental Age 6, IQ54.

A. *See the little boy*, written from dictation. B. Spelling of *dog* and *horse*. C. Copy of a square. D. Copy of a diamond. E. Example in multiplication. F. "History Facts," written without copy or help.

## *Harriet, I. Q. 43*

Here is a girl whom we first examined four years ago. She was then seven years old, and although she had been in the kindergarten for two years, she was not ready for promotion into the first grade. And the sad fact of the matter is, she never will be ready. She is now eleven years old but cannot be taught the first rudiments of reading and writing and number. At the age of seven she could not count four pennies; she can do so now in a rather mechanical manner, but she has no clear concept of even the number four. As for writing, she is still in the scribble stage. In 1914 she made the scrawl shown in figure to represent a dolly. In 1918 she is unable to draw a steady straight line, and cannot make a cross mark even when shown a model.

All of this tends to prove that her mental development has been practically at a standstill; and that six years of public school life have had little effect upon her intelligence. This is very neatly corroborated by the records of our two mental examinations. In 1914 her mental age was exactly 3 years; in 1918 it was exactly four years by the same tests. It has taken her four years to make one year of normal intelligence progress as measured by these tests. Evidently she has not "outgrown" her deficiency as her mother hoped she would. Nor has she deteriorated. She has just about held her own; for her I. Q. (intelligence quotient) in 1914 was 43 and now it is 37, a very close correspondence.

What can Harriet do which she could not do four years ago? She can give an acceptable definition of a chair and a table; she can tell you what one must do when cold or hungry; she can match a few simple geometrical forms; she can tell us whether she is a girl or a boy. But she cannot yet give us the names of colors, or of familiar coins, nor distinguish between right and left. Why does she seem so much more deficient than she did when she was in the kindergarten? Simply because she is older. While she was a mere child many allowances were made for her; now more is expected; but relatively (as shown by the I. Q.) she was about as defective in 1914 as in 1918.

This case is, therefore, instructive because it shows how important is the ratio between mental age and chronological age. We can never make a satisfactory estimate of a child's intelli-

gence calibre unless both standards are taken into account. Harriet's case also illustrates the fact that even children of imbecile grade are able to go to school, and that they can be maintained there if we make proper provision for them. Many, however, would consider her an institutional case because she is even at best a very difficult child to manage, and does not get proper chaperonage to and from school. Most deficient school children are morons, similar to the type described further on; and a great deal can be done for them in the public school, even outside of a special class.

*Sarah, I. Q.* 75

Sarah is physically a well developed girl; she makes a fairly pleasing impression, though she is somewhat slow and awkward in her movements, and has a reputation of being rather slovenly. She is fourteen years old and it is evident from her school work that she is not very bright. She is in the sixth grade and is therefore retarded about two years. The intelligence tests show even more retardation, for she earns a score of little over ten years. She is slow in her responses and never brilliant; however she makes no absurd replies, and shows a mild sense of humor, which speaks well for her. We know nothing in her history which proves serious lack of good judgment. Though her school work is only passable, it is evidently more than the product of mechanical drill. The total impression is that Sarah is simply a slow, dull girl. In spite of her marked retardation, we would not consider her deficient. She has definite limitations, and should not be considered a candidate for higher, academic education. It is her modest ambition to become a seamstress; and in all probability she will succeed, independent of external support. We anticipate that she will be able to shift for herself, and show ordinary prudence and good judgment. Therefore, we classify this girl on the normal side of the borderline,—dull, but not deficient.

*Helen, I. Q.* 137

Helen makes no doubtful or borderline impression. Intelligence shines in her features; as it shines in her school record and in her responses to the psychological test. She mentally outranks all her schoolmates many of whom are a few years older. She

has an intelligence quotient almost thrice that of Harriet, and almost twice that of Sarah. Helen is only twelve years old; but she is in the eighth grade, and her mental age is about 16. Even so, she may be somewhat retarded, pedagogically; for she has been mentally ready for high school work for a year or more. Her language reflects her mental maturity. She has a vocabulary of over 10,000 words, almost that of an average adult; and this is particularly interesting because she has had a very unfavorable homelife. Her homelife has been so adverse tha if she were dull (like Sarah) we might have been tempted to explain her dullness by these home conditions. This would have been poor logic, for intelligence calibre is primarily a matter of inheritance.

Helen freely uses such words as "depose" and "compassion." Asked to state the difference betwen character and reputation, she instantaneously replied with Napoleonic precision and succinctness. Once hearing seven digits pronounced at the rate of one per second, she can repeat them backwards. In five seconds she solved an arithmetic problem which fourteen year children often take a minute to work out.

So far as intellect is concerned, this girl will surely be able to meet the ordinary demands of life, without external support. She is not only normal; she is superior, and as a matter of justice and conservation she deserves superior educational advantages.

*Three brothers, mental age 7*

We discuss these three children together, because mentally there happens to be a remarkable similarity between them. This similarity emphasizes certain important differences. Almost to a detail, they pass and fail the same tests in the measuring scale of intelligence; and their responses are much alike in quality. This is suggested by the samples of school work shown in the illustration. It is also shown in the estimates which the teachers made of their school ability. In reading, writing, arithmetic and spelling they were rated at second or in most cases third grade ability. Have they all become permanently arrested just below the level represented by fourth grade school work?

Let us see. Andrew is ten years old. He is doing passable third grade work in all his subjects. This is not a serious re-

tardation; but by the intelligence tests, he is at the seven year level, and his intelligence quotient is only 71. This is not very reassuring; particularly under all the circumstances. He does not show normal grasp of his school work; and his teacher suspects that he is going to have great difficulty in the fourth grade. If he becomes stranded there, we shall be forced to conclude that he is probably deficient; though at present he is both absolutely and relatively the brighest of the three boys. We believe that he is near the limits of his mental development, that the next five years will accentuate his deficiency, and that he will not rise to the eleven or twelve year mental level. We think, however, that at his present age he should be given every advantage in his school work; but vocational and hand work are already indicated in his case.

Elmer and Amos are decidedly inferior to Andrew, and unquestionably deficient. By mental age these three brothers are identical, but not by intelligence quotient. Andrew with an I. Q. of 71 is near the borderline and at least a high grade moron: Elmer being twelve years old has an I. Q. of 64 and is much more subnormal; Amos being over thirteen years old has an I. Q. of 54, and is a low grade moron. Elmer and Amos can never do satisfactory fourth grade work, if they remain in school all their lives. Much drilling has given them a little facility in adding and multiplying and in reading. In some processes they are even superior to their brighter brother, Andrew; but that is due simply to mechanical drill and repetition; and not to real superiority. Much of their present school ability is absolutely useless, and it probably has had no strengthening effect on their minds. Their information is wofully meagre. They do not know where leather comes from or why we celebrate the fourth of July. Asked who Abraham Lincoln was; they both paused a long time in apparent reflection. Finally Elmer said, "He was a man." Amos said he knew that, and added, "He was a poor boy who got rich."

The children had gone to school for years. Do not their replies show the futility of teaching them academic abstractions? What they and the legion they represent, need is training along concrete, practical, and vocational lines.

## *Simon, I. Q. 54*

On looking at the drawings and the written school work of Simon, age eleven, one can hardly believe that this boy is really only a little more than a high grade imbecile. His mental age is six, and on the intelligence scale his rank is that of a low grade moron. He is an instructive case for the teacher who is inclined to place too much importance upon mechanical drill and written work. Here we have a boy who can not tie his shoe strings, but who can write out a long list of history facts without making scarcely a mistake. Here is a boy who can not discriminate between left and right, who can not tell time, who would sooner have a nickel than a dime, who thinks that leather grows on trees,—yet he can write without any copy historical statements about Columbus, Magellan, the Pilgrims and Amerigo Vespucci. How can we explain this amazing situation?

One word holds the key to the explanation, and that word is memory. Memory as, Binet reminded us, is the great simulator of intelligence; but it is never a complete equivalent or even a trustworthy symptom of intelligence. Practice so thoroughly familiarized Simon with the written history facts that after a while the teacher could take the chart away and still the boy was able to write out the sentences. Put a hungry white rat into a complicated maze and after repeated trials it will learn the correct path and easily find its way out. The creature memorizes the maze; but it is a mechanical, motor kind of memory. In a similar way Simon acquired the motor associations which result in his surprising ability to set down historical facts.

That there was no true perception of these facts was prettily demonstrated by a conversation I had with him, somewhat as follows: "Who was Christopher Columbus?" I asked. There was no reply. The question proved to be too abstract. "What did Christopher do?" Still no answer. Finally I put it this way: "Who discovered America?" and received the response, "Christopher Columbus." I very much doubt, however, that Simon even knows that Christopher Columbus was a man. It is easy enough to say that he ought to know; but it is better

to possess one's patience because all that we are sure that he does know is the motor trick of writing out the " history facts."

One of Simon's teachers lost her patience because of his persistent refusal to recite. He was inveterately silent; and because he was sometimes heard to talk on the playground, it began to look to the teacher as though the boy was simply obstinate in his silence at lessons. She summoned his father to school, one day, and Simon was rather severely disciplined for his refusal to recite. What a comic tragedy it must have been when poor Simon was scolded, upraided and finally beaten, because he would not recite! Like reproving a blind man because he will not see! Although there is some timidity in this boy he is very good hearted, and his silence was chiefly due to a consistent lack of ideas and of comprehension.

This story contains a good deal of psychology, both applied and mis-applied. It warns us to be conservative in labelling any pupil stubborn, lazy, wilful. Many a deficient child has been unjustly described by such adjectives. Sometimes, to be sure, the feebleminded are temporarily obstinate, but even then, it is often an instinctive resistance against an educational treatment for which they are not fitted. In such cases their obstinacy is a self protective reaction against the wrong thing and a reminder of the fact that we ought to modify our program and our pedagogical tactics. In general we may say, the special child needs a special program.

PART III

# Practical suggestions
# for
# A special program for the deficient child

*Practical suggestions for a special program for the deficient child*

If it is impossible for the teacher to put her deficient pupil into a special class, let her make the best of the situation and devise for him a special program. Under favorable conditions this special program may be almost as beneficial for him as a special classroom. The teacher can afford to give him at least some individual attention; and as already suggested let her enlist the aid of the brighter pupils, or even older schoolmates in the upper grades. Naturally the deficient pupil will be permitted to share in the regular school work, whenever he is at all fitted to do so; but during certain periods of the day he should be occupied along special lines particularly suited to him. Gradually the teacher should develop for him a special program or schedule of activities which will keep him busy and contented during the school day. Concrete suggestions for the making out of such a schedule will now be given. These suggestions must of course be adapted to each individual case; and it is hoped that the teacher will supplement them with ideas altogether her own.

*The three R's*

We will begin with the 3 R's; but not because they are the most important. They are not. It might even be said that a feebleminded child is one who cannot be taught the 3 R's with any marked advantage to himself or to society. It has been suggested that the 3 R's constitute the fads and frills in the education of the mentally deficient. This is not altogether true. Some high grade children learn to write a simple letter, and sometimes they put this ability to good use. Some learn to read the newspapers sufficiently to look up Help Wanted ads when they are out of a job; and they have occasion to make use of some of their arithmetic in handling their simple financial affairs. But after making a few allowances like this, there is little to be said for the practical importance of "the fundamentals"; for the simple reason that they are not fundamental in the training of the mentally deficient. They are secondary "cultural" subjects.

However, they are convenient subjects to teach; they furnish occupation and often no little enjoyment to the children. If a child will learn to take plesaure even in the simplest reading,

that is enough to justify the teaching. Furthermore even a slight ability in reading and writing serves to make the child seem more like other children; and when he is a high grade deficient, he should be given an opportunity to show how much he can master. For all these reasons the 3 R's may find a place on the special program of the deficient child; but the teacher should not go to undue lengths in teaching these academic subjects.

When a child can do no more than scribble, when he cannot even make a good kindergarten drawing of a house, do not go to extremes to teach him penmanship. And if a child is so deficient that he ordinarily talks only in phrases and short sentences; and if, after months in the schoolroom he is unable to recognize a few primer words, do not worry about your failure to teach him to read. He probably needs other kinds of instruction much more. I have known conscientious teachers to blame themselves unjustly for failures which were due to the sheer incapacity of the pupil.

In arithmetic, when it can be taught at all, there is a happy mean. Abstract number relations are beyond the feebleminded; and many of the processes which you *can* teach by dint of drill will be pure acquisitions of memory, and will never be applied. But there are concrete relations which are worth teaching, by means of yard stick, foot rule, quart and pint measure, cloth, paper, sand, water, coins, etc. Ideas of near and far, short and long, longer, shorter, one half, one quarter, inch, foot, ten cents, twenty-five cents, pound, diameter, circumference, etc., etc., can be taught by the well known methods of concrete arithmetic. It is well to keep most of the work on this concrete level. Be content with a few fundamentals of every day importance like the values of coins, making change, estimating and measuring dimensions, the length of a foot, one half, one third, one fourth, the use of a ruler, telling time, writing numbers, and simple problems.

### *Drawing*

This is an excellent form of busy work for a deficient child. Give him abundant paper eight by ten inches or larger in size; give him a supply of colored crayons and let him draw by the hour, a half hour if he is interested. Wrapping paper may be economically used. Magazine advertisements to color offer

abundant material. This kind of work at least helps to keep the child occupied and interested. It has educational values beside. Any form of drawing or water color work, tracing, copying, etc., may be used. Some children like to use a ruler and a compass, and stiff pieces of cardboard cut into various shapes; with these they construct geometric designs which they fill in with color. Drawing has this advantage, that all grades of children can engage in it to some extent.

### *Busy-work*

For a lower grade child who has difficulty in doing any ordinary school work whatever, the teacher must provide various forms of "busy work." It is better that such a child put pegs in a peg board and pull them out and put them in again and again, than that he should sit idle or disturb other children. Have him paste, cut, sort, prick, match, fold,—anything to keep him occupied. Busy work is often educative, it is always better than neglect or a futile effort to make the child join in regular class work. The teacher will have to make the plans and take the initiative in starting this work, but once it is started a monitor pupil, chosen from the brighter, older children, can easily keep it going and can add to it. Make it a point to get these bright children to make suggestions and to assist in every way possible. Following are some concrete suggestions as to available kinds of busy work. There are many others which the teacher herself should invent.

1. Stringing beads. Beads may be supplied or made. Straws, circles, acorns, rose hips, peas are available.

2. Making paper chains. Various sizes, colors, and arrangements.

3. Sorting colors (worsted, paper, cloth, etc).

4. Sorting sizes (cards, sticks).

5. Outlining simple drawings, and designs with lentils squash or melon seeds. The drawings are placed flat on the desk and the child overlays the outlines.

6. Sorting lengths (strings, etc., of various lengths).

7. Weaving with oilcloth or linen mats and colored splints, and with paper mats.

8. Sewing cards of simple design.

9. Covering picture frames (of cardboard) with worsted or raffia (buttonhole stitch).

10. Paper cutting—Have the child cut out designs from wall paper, advertisements from magazines, and human figures from fashion books.

11. Tracing and coloring from large patterns.

12. Pasting colored forms in border designs.

13. Sewing large buttons on bright material, with colored thread.

14. Spool knitting.

15. Modelling with clay, sand, plasticene.

16. Making scrapbooks. Pasting pictures into large and small scrapbooks is an excellent form of past time work.

17. All forms of paper work. Free cutting, cutting to outline, paper mat weaving, paper flowers, paper dolls, transparencies, silhouettes, holiday tokens, paper tearing, paper folding, etc. (see Reference No. 8 in Book list).

*Handicraft and vocational work*

Here is the teacher's greatest opportunity. It may seem rather hopeless to undertake vocational work for the particular benefit of one or two children, in a room with screwed down seats, and in a day largely devoted to the task of teaching the academic subjects. But the situation is not as hopeless as it looks. There is a way when there is a will. In the first place there are many forms of vocational activity which can be carried out as seat work in an ordinary desk. In the second place, it would really be an excellent thing if an enterprising teacher put a work table in the corner of the room, or had her larger boys make a small work bench with a vise or a loom for schoolroom use. The fact that the normal children would sometimes use this table or bench for their own interests would certainly not be an objection. Nothing will make the deficient child so happy as vocational work, nothing will better train and discipline him. While it will take a little resourcefulness, planning and courage on the part of the teacher to get vocational work started, the effort will

be repaid; because the defective child will be less of burden. And again, when once the work is started the older children can help a great deal to keep it going. In fact in some schools a committee of older children could be enlisted and take most of the responsibility. In these days we do not have to justify such a suggestion; because it is recognized that such social cooperation and helpfulness in the schoolroom are the best kind of education for all concerned. The control of the great social problem of feeblemindedness is a question of applied sociology. And it is chiefly a vocational problem. Why not take the first steps toward this control in the schoolroom; and let future citizens assist where they can?

We make below a rather extended list of suggestions concerning forms and methods of vocational work; because this work offers the largest possibilities. Some suggestions are very readily put into practice; others will require a little scheming and a slight expense; but all of them are workable even under rural school conditions. The teacher who becomes interested in a particular line of work like basketry or weaving will get assistance from the handbooks mentioned at the end of this manual. Instead of trying to cover too many occupational activities, the teacher will do well to single out a few, best adapted to her children and to the circumstances.

### *Knitting*

This is a silent, simple and very useful form of handwork to adopt. Children with only a six or seven year old intelligence can knit; and recent experiences with Red Cross work have shown that knitting can easily be introduced into the schoolroom. The following articles can be made: muffler, wristlet, caps, socks, mittens, doll's garments, afghan, wash glove, face cloth, cover for baby's ball, etc. Simple arrangements can often be made for the sale of articles, to at least repay the cost of materials.

### *Spool knitting*

This form of toy knitting is adapted even to children of low grade deficiency, and is excellent in many cases. Reins for playing horse (colored or uncolored) are favorite articles of manu-

facture by this method. Mats, hot plate mats, and necklaces of Dexter cotton No. 6 can be made by the same method (see Reference No. 8).

### *Crocheting*

This is more difficult than knitting, but may be adapted to middle and high grade children. Jute, Germantown, raffia twine, carpet warp and crochet cotton may be used. The coarser material, like carpet warp or strips of cotton an inch or two in width, is usually preferable. Large wooden hooks may then be used; and rugs, knitting bags, and book bags may then be made.

### *Sewing*

This also is a most satisfactory form of handwork. An excellent outline, explaining different kinds of stitches, and giving directions for making various articles is to be found in the 1917 edition of Plans for Progress (pp. 115-137) published by the State board of education. Patterns, specifications, etc., are given for towels, bags, aprons, waists, underwear, bathrobe, blouses, pillowcases and dress skirts. Simple forms of sewing and easy problems may be adapted to low grade children. Cross stitching and darning designs are valuable.

### *Rag carpet rugs*

This is an occupation, at once so simple, interesting and useful that we give directions in full. Any rural teacher can take advantage of the opportunty offered in making these old fashioned rugs.

Let the children bring to school cast off clothing like under garments, stockings, dresses, coats and skirts. Let this material be cut or torn into strips by the deficient child, and have the strips of similar color sewn together, end to end; roll the strips into balls.

Take three of these balls and tie their three ends together, and have the child braid these strips tightly together. This braided material can then be sewed together and made into any shape of rug desired. If a round rug is desired, start with the end of a braid in the center and keep winding into a circle or spiral.

The braids should be sewed so that both sides of the rug may be used. If a square rug is desired, start in the center and shape in square fashion. If an oval rug is desired, start at one side of the center and lay the first coils of braid in parallel straight lines, gradually working to the oval shape.

### *Weaving*

Here is a field for work of many varieties. Small handlooms may be obtained; or may be improvised. A large frame for shawl making could be made by a bright boy under direction. Large and small mats, rugs and holders may be woven. Warp thread, jute, and cotton or woolen strips may be used as materials. "Old knit underclothing is easily dyed and makes excellent rugs." Hooked rugs may be made on a burlap foundation; and double braided rugs on wooden looms. Rag carpet may also be woven.

### *Cord work*

This is adapted to different grades of children and may be attempted on either a small or large scale. Bracelets, doll's curtains, shopping bags, watch fobs, hammocks may be mentioned.

### *Basketry*

If the teacher has had experience in this handicraft or will teach it to herself through one of the many practical handbooks, she will find it an interesting occupation to introduce. Baskets may be made of reed, or of reed or rope foundation with raffia. Rope or twine has many advantages for children. Braided native materials may also be used, like corn husks, willow, cat-tails.

### *Raffia work*

Raffia is a strong, pliable grass, which may be obtained either in natural or dyed colors. It lends itself to many uses besides basketry; for it may be wound, woven, knitted or braided into various articles like belts, picture frames, napkin rings, sewing bags, etc.

*Woodwork*

The opportunities here are so many that it is hardly necessary to detail them. If the teacher is ready to secure a few necessary tools, and with the cooperation of some of the older boys (or girls) will put up a simple bench in the shed, basement or even in the corner of her schoolroom; many kinds of woodwork will suggest themselves. It is not necessary for the teacher to be a carpenter or a cabinet maker; nor is it necessary to have a large fund for materials. Old boxes and odds and ends of lumber can be utilized. Stools, stands, shelves, pencil racks, bird houses,—many simple things for the school or the home can be made. The assistance of "monitor pupils" will be particularly helpful, and relieve the teacher.

*Coping saw work*

This form of woodwork is peculiarly fitted to schoolroom conditions and can be easily adapted to the needs of even rather low grade children. The equipment and materials are inexpensive; a regular work bench may be dispensed with; and the work is clean. An unlimited variety of articles can be made, presenting many degrees of difficulty to the child. Picture puzzles (jig saw puzzles), are a favorite product. Dissected maps can be made and used by the classes in geography. Indeed, much of the handwork suggested can be correlated with the regular school work of the normal children. The benefits are not limited to the deficient child.

*Special occupations*

There is a group of occupations, which while not altogether impractical in the ordinary schoolroom, require a little extra equipment and training on the part of the teacher. Their value in a special classroom has already been demonstrated; and under certain circumstances the regular teacher may find it well to consider one or more of them. Handbooks giving detailed directions may be secured. Such occupations are brush-making; chair caning; leather work; metal work; cobbling; toymaking.

*Home and school chores*

Whenever possible the deficient child should be taught to do errands and small tasks. This is good training for him, makes

him more useful and promotes his self-respect. At school he may be allowed to sweep and scrub the floors, dust, clean the woodwork, clean the windows, fill the woodbox, black the stove, collect the papers, sharpen the pencils, rake the yard. This furnishes such excellent vocational training that he may well be given the opportunity to clean the windows, etc., even oftener than is absolutely necessary.

Home chores are equally important, and parents should be encouraged to assign regular definite tasks in the kitchen, bedroom, farm and shop. As already suggested, teachers should point out to parents the value of such work. The deficient child should perform a certain number of these chores, even if it is more convenient that they be attended to by some one else. As the child grows older and no longer can get any benefit out of the academic work of the school, the advisability of his spending at least a half of each day in helping at home may well be considered. It should always be remembered that the right kind of work trains him in just those habits which he most needs; and that reading and arithmetic have no power to strengthen his mind.

### *Physical education*

This is important, because motor or muscle training is fundamental to other forms of training. Good posture, good step, rhythm, quickness in muscular response, will improve the general demeanor of the deficient child and help to make him more alert. Therefore, any kind of setting-up exercises, marching, calisthenics, and special physical exercises demanding motor balance and control will have a value. Dancing and music are often peculiarly effective. Games are beneficial both for mental and physical reasons. So far as practical, the deficient child should be permitted to join in the games and physical exercise of the normal children. If some of these children are made to take a responsible interest, they will arrange and adapt games for the benefit of the deficient child.

### *Personal habits*

Simple matters which often take care of themselves in normal children, must be given special attention in the deficient

child. His everyday personal habits are too important to be neglected. While some of these things depend on the home, the teacher can do a great deal to bring them up to standard. General deportment, obedience, saying good morning, thank you, if you please, etc., washing himself, tying his necktie and shoestrings, keeping himself neat, shaking hands, showing signs of respect,—all the little manners and courtesies of everyday life are important, because taken altogether they will do more than anything else to make the child like other children. They are the true fundamentals in the education of the deficient child. Do not be too zealous to teach him reading, when he does not know how to use a handkerchief, and does not clean his nose.

### *A final word to the teacher*

While we appreciate that many of the above suggestions have no application to her particular problem, we hope that they are numerous enough so that she can undertake to work out a special program for her deficient pupil. She can start by giving him at least one period of special seatwork, and then she can gradually add activities to this (often with the aid of her bright pupils) until she will have established a new schedule for him. If she has any peculiar difficulties, we suggest that she address a question to her supervisor or to the office of the state board of education. There is a department in this office which is anxious to help her. In special cases where a psychological examination of a child is desired by the teacher or the parent, this can also be arranged for through your supervisor. On the next page we append a list of books which contain helpful information.

We wish to repeat that wherever possible the teacher should make the deficient child "a family problem" in the solution of which the older and brighter pupils may share. Let her parcel out some of the minor responsibilities to these pupils, and soon she will find that the special program maintains itself and grows in possibilities. A little initiative on the part of the teacher, combined with ingenuity and interest will go a long way toward improving the status of the deficient school child.

## SELECTED BOOK LIST


1. Anderson, Meta. *Education of Defectives in the Public Schools.* World Book Co., Yonkers. 1917.

2. Bancroft, Jessie H. *Games for Playground, Home, School and Gymnasium.* MacMillan Co., N. Y.

3. Gilman, Mary L. and Williams, Elizabeth. *Seatwork and Industrial Occupations.* MacMillan Co., N. Y. 1913.

4. Jessup and Logue. *Handicraft Book.*

5. Johnson, George F. *Toys and Toymaking.* Longmans, Green & Co., N. Y. 1912.

6. Plaisted, Laura L. *Handwork in Early Education.* Oxford University Press, Oxford. 1913.

7. Sage, Elizabeth and Cooley, Ana M. *Occupations for little Fingers.* Scribners, N. Y. 1905.
   (This book contains many practical suggestions and helpful illustrations.)

8. Special Class Teachers of Boston. *The Boston Way.* The Rumford Press, Concord, N. H. 1917.
   (This book is the united work of the special class teachers of Boston and an outline of their united experience. It can be highly recommended. The treatment is concrete and practical.

9. Tinsley, Laura R. *Practical and Artistic Basketry.*

10. Weaver, Emily. *Paper and Scissors in the Schoolroom.*

11. White, Mary. *How to make Baskets.*

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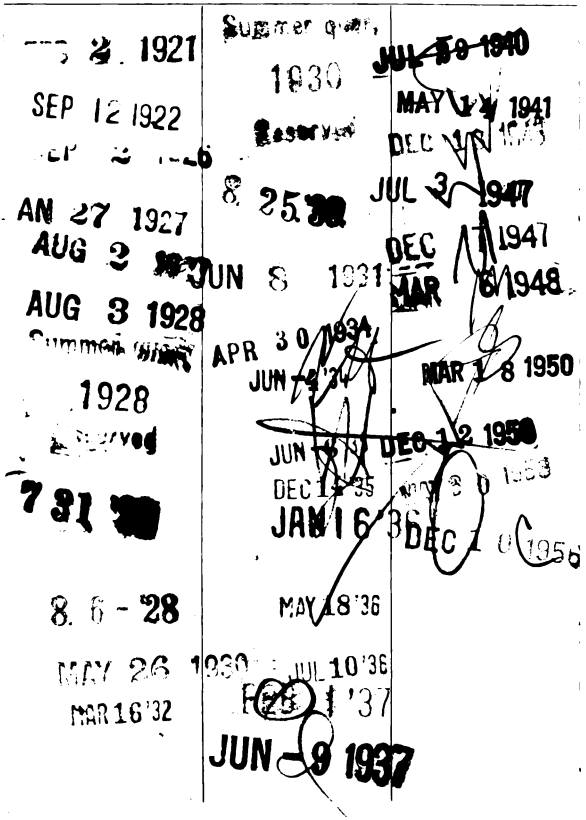
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